

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Previously Presented) An OLED device comprising:
  - (a) a substrate;
  - (b) a first electrode layer disposed over the substrate;
  - (c) an inorganic short reduction layer disposed over the first electrode layer, wherein the short reduction layer is selected to have a thickness and resistivity sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects;
  - (d) a charge injection layer disposed over the inorganic short reduction layer;
  - (e) an organic EL element disposed over the charge injection layer; and
  - (f) a second electrode layer over the organic EL element.
2. (Previously Presented) The OLED device of Claim 1 wherein the first electrode layer is an anode.
3. (Original) The OLED device of Claim 1 wherein the short reduction layer is selected from indium oxide, gallium oxide, zinc oxide, tin oxide, molybdenum oxide, vanadium oxide, antimony oxide, bismuth oxide, rhenium oxide, tantalum oxide, tungsten oxide, niobium oxide, or nickel oxide.
4. (Original) The OLED device of Claim 3 wherein the short reduction layer is a mixture of at least two of the listed oxides.
5. (Original) The OLED device of Claim 3 wherein the short reduction layer is a mixture of at least one of the listed oxide materials and an electrically insulating oxide, fluoride, nitride, or sulfide material.
6. (Original) The OLED device of Claim 1 wherein one of the two electrode layers is a transparent conductive oxide layer and the other electrode layer is metallic.
7. (Original) The OLED device of Claim 1 wherein both electrode layers are metallic and at least one of the two electrode layers is semitransparent to the emitted light.

8. (Previously Presented) The OLED device of Claim 1 wherein the short reduction layer is 5 nm or more in thickness.

9. (Original) The OLED device of Claim 1 wherein the short reduction layer is between 20 nm and 200 nm in thickness.

10. (Currently Amended) An OLED device comprising:

- (a) a substrate;
- (b) a first electrode layer disposed over the substrate;
- (c) an organic EL element disposed over the first electrode layer, ~~wherein the short reduction layer is selected to have a thickness and resistivity sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects;~~
- (d) a charge injection layer disposed over the organic EL element;
- (e) an inorganic short reduction layer disposed over the charge injection layer, wherein the short reduction layer is selected to have a thickness and resistivity sufficient to reduce the leakage current and the associated loss of emission efficiency due to shorting defects; and
- (f) a second electrode layer disposed over the short reduction layer.

11. (Previously Presented) A high resolution pixilated OLED display comprising:

- (a) a substrate;
- (b) a first electrode layer disposed over the substrate;
- (c) an inorganic short reduction layer disposed over the first electrode layer, wherein the short reduction layer is selected to have a through-thickness resistivity between 10 ohm-cm<sup>2</sup> to 1500 ohm-cm<sup>2</sup>;
- (d) an organic EL element disposed over the short reduction layer;

(e) a second electrode layer over the organic EL element.

12. (Original) The OLED display of Claim 11 wherein a charge injection layer is disposed between the inorganic short reduction layer and the organic EL element.

13. (Previously Presented) The OLED display of Claim 11 wherein the short reduction layer is selected from indium oxide, gallium oxide,

zinc oxide, tin oxide, molybdenum oxide, vanadium oxide, antimony oxide, bismuth oxide, rhenium oxide, tantalum oxide, tungsten oxide, niobium oxide, or nickel oxide.

14. (Previously Presented) The OLED display of Claim 13 wherein the short reduction layer is a mixture of at least two of the listed oxides.

15. (Original) The OLED display of Claim 13 wherein the short reduction layer is a mixture of at least one of the listed oxide materials and an electrically insulating oxide, fluoride, nitride, or sulfide material.

16. (Original) The OLED display of Claim 11 wherein one of the two electrode layers is a transparent conductive oxide layer and the other electrode layer is metallic.

17. (Original) The OLED display of Claim 11 wherein both electrode layers are metallic and at least one of the two electrode layers is semitransparent to the emitted light.

18. (Previously Presented) The OLED display of Claim 11 wherein the short reduction layer is 5 nm or more in thickness.

19. (Original) The OLED display of Claim 11 wherein the short reduction layer is between 20 nm and 200 nm in thickness.

20. (Previously Presented) An OLED device having one or more large light emitting light emitting segments, comprising:

- (a) a substrate;
- (b) a first electrode layer disposed over the substrate;
- (c) an inorganic short reduction layer disposed over the first electrode layer, wherein the short reduction layer is selected to have a through-thickness resistivity is between  $10^{-2}$  ohm-cm<sup>2</sup> to  $10^{-7}$  ohm-cm<sup>2</sup>;
- (d) an organic EL element disposed over the short reduction layer; and

- (e) a second electrode layer over the organic EL element.

21. (Original) The OLED device of Claim 20 wherein a charge injection layer is disposed between the inorganic short reduction layer and the organic EL element.

22. (Previously Presented) The OLED device of Claim 20 wherein the short reduction layer is selected from indium oxide, gallium oxide, zinc oxide, tin oxide, molybdenum oxide, vanadium oxide, antimony oxide,

bismuth oxide, rhenium oxide, tantalum oxide, tungsten oxide, niobium oxide, or nickel oxide.

23. (Previously Presented) The OLED device of Claim 22 wherein the short reduction layer is a mixture of at least two of the listed oxides.

24. (Original) The OLED device of Claim 22 wherein the short reduction layer is a mixture of at least one of the listed oxide materials and an electrically insulating oxide, fluoride, nitride, or sulfide material.

25. (Original) The OLED device of Claim 20 wherein one of the two electrode layers is a transparent conductive oxide layer and the other electrode layer is metallic.

26. (Original) The OLED device of Claim 20 wherein both electrode layers are metallic and at least one of the two electrode layers is semitransparent to the emitted light.

27. (Previously Presented) The OLED device of Claim 20 wherein the short reduction layer is 5 nm or more in thickness.

28. (Original) The OLED device of Claim 20 wherein the short reduction layer is between 20 nm and 200 nm in thickness.